e: 4520-43-P

DEPARTMENT OF LABOR

Mine Safety and Health Administration

Petition for Modification of Application of an Existing Mandatory Safety Standard

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Notice.

SUMMARY: This notice includes the summary of a petition for modification submitted to the Mine Safety and Health Administration (MSHA) by the party listed below.

DATES: All comments on the petition must be received by MSHA's Office of Standards, Regulations, and Variances on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may submit your comments including the docket number of the petition by any of the following methods:

1. Email: zzMSHA-comments@dol.gov. Include the docket number of the petition in the subject line of the message.
2. Facsimile: 202-693-9441.
3. Regular Mail or Hand Delivery: MSHA, Office of Standards, Regulations, and Variances, 201 12th Street South, Suite 4E401, Arlington, Virginia 22202-5452,

Attention: S. Aromie Noe, Acting Director, Office of Standards, Regulations, and Variances. Persons delivering documents are required to check in at the receptionist's desk in Suite 4E401. Individuals may inspect copies of the petition and comments during normal business hours at the address listed above. Before visiting MSHA in person, call 202–693–9455 to make an appointment, in keeping with the Department of Labor's COVID–19 policy. Special health precautions may be required.

MSHA will consider only comments postmarked by the U.S. Postal Service or proof of delivery from another delivery service such as UPS or Federal Express on or before the deadline for comments.

FOR FURTHER INFORMATION CONTACT: S. Aromie Noe, Office of Standards, Regulations, and Variances at 202-693-9440 (voice), Noe.Song-Ae.A@dol.gov (email), or 202-693-9441 (facsimile). [These are not toll-free numbers.]

SUPPLEMENTARY INFORMATION: Section 101(c) of the Federal Mine Safety and Health Act of 1977 and Title 30 of the Code of Federal Regulations (CFR) part 44 govern the application, processing, and disposition of petitions for modification.

I. Background

Section 101(c) of the Federal Mine Safety and Health Act of 1977 (Mine Act) allows the mine operator or representative of miners to file a petition to modify the application of any mandatory safety standard to a coal or other mine if the Secretary of Labor (Secretary) determines that:

1. An alternative method of achieving the result of such standard exists which will at all times guarantee no less than the same measure of protection afforded the miners of such mine by such standard; or

2. The application of such standard to such mine will result in a diminution of safety to the miners in such mine.

3. In addition, sections 44.10 and 44.11 of 30 CFR establish the requirements for filing petitions for modification.

II. Petition for Modification

Docket Number: M-2021-031-C

Petitioner: Fossil Rock Resources LLC, 5125 N Cottonwood Road, Orangeville, UT 84537.

Mine: Fossil Rock Mine, MSHA ID No. 42-01211, located in Emery County, Utah.

Regulation Affected: 30 CFR 75.350 (Belt air course ventilation).

Modification Request: The petitioner requests modification of the existing standard 30 CFR 75.350 to permit alternative methods of compliance to accommodate the use of a two-entry longwall mining system.

The petitioner states that:

(1) Fossil Rock plans to operate a two-entry longwall system using belt air in a two-entry mining system.

(2) Geological conditions and historical mining at this site have demonstrated that a two-entry longwall system will provide a safe roof control environment for the miners.

(3) The special terms and conditions set out below will at all times provide a safe work environment to the miners, and will provide no less than the same measure of protection afforded the miners by the existing standard, 30 CFR 75.350.

The petitioner proposes the following alternative method of compliance to permit the use of the belt air course as a return air course and to permit use of belt air to ventilate the working face:

I. Requirements Applicable to Two-Entry Development, Longwall Set-up and Recovery, and Retreat Mining System.

A. An atmospheric monitoring system (AMS) that incorporates diesel-discriminating sensors for early warning fire detection shall be installed in the intake escapeway entry and the belt entry as follows:

1. At the mouth of the section in the intake escapeway entry, at the beginning of the working section, and at intervals not to exceed 1,000 feet along the intake escapeway entry between such locations.

2. At the mouth of the section in the belt entry, at a location between 50 and 100 feet inby the section belt drive if the air is traveling toward the face, or outby if the air is traveling away from the face, in the belt entry and at intervals not to exceed 1,000 feet along the belt conveyor entry, except as provided in paragraphs (A)(3), (A)(4) and (J). A monitoring device shall be located

between 50 feet and 100 feet inby the tailpiece if the air is traveling toward the face, or between 50 feet and 100 feet outby the tailpiece if the air is traveling away from the face. The tailpiece and the sensor shall be on the same split of air.

3. Where a belt discharges onto a conveyor tailpiece as a continuation of a belt conveyor haulage system without a change of direction, and the belt drive, the belt take-up, and belt conveyor tailpiece are on the same split of air, only one low-level carbon monoxide senor shall be required at this location. Depending on the direction of the air flow, the sensor shall be installed not more than 100 feet inby or outby the belt drive, belt take-up, and tailpiece on the same split of air.
4. During retreat, at a location not more than 100 feet outby the point-feed to the belt in the intake entry and inby the point-feed in the belt entry.
5. Sensors shall be installed near the center of the upper third of the belt entry, in a location that will not expose personnel working on the system to hazards. Sensors installed in the haulage entry shall be located in areas where they are not subject to damage from mobile equipment. Sensors shall not be located in intersections, atypically high-roofed areas or in other areas where air flow patterns do not permit products of combustion to be carried to the sensors.

B. Air velocity requirements in the two-entry system:

1. The air in the monitored entry(s) shall have a velocity of at least 50 feet per minute in the designated direction.
2. Velocity measurements shall be taken at locations in the entry which are representative of the cross-sectional areas found throughout the entry and not at locations where the entry is high (e.g., belt drives) or low (e.g., under overcasts).

C. Determination of the corrected carbon monoxide ambient, alert, and alarm levels shall be as follows:

1. Upon implementation of this petition, the corrected carbon monoxide ambient level shall be 2 parts per million (ppm) and future ambient level determinations shall be made under normal mining conditions as follows:

a. Properly calibrated carbon monoxide and nitric oxide sensors shall be used for corrected ambient determination where this petition requires monitoring with diesel-discriminating sensors. A corrected carbon monoxide ambient determination shall be made by either of the following methods:

i. Measurements from all two-entry diesel-discriminating sensors for each separate air split shall be used. Continuous readings shall be taken and recorded for a total of five (5) consecutive production shifts to establish a history of corrected carbon monoxide levels. The average of the data collected for each air split will determine its ambient level; or

ii. An equally effective method approved as part of the mine ventilation plan.

b. MSHA shall be notified when ambient levels will be determined and provided an opportunity to assist in ambient level determination.

c. Corrected ambient levels shall be representative of normal operating conditions. Diesel equipment shall not be idled unnecessarily in the air split where the ambient level is being determined. The number and type of diesels entering and leaving the two-entry system will be documented during ambient determination if MSHA requests this information.

d. Corrected ambient levels can differ between the two air courses in the two-entry system. Corrected ambient levels can also be different for development, retreat, longwall set-up and longwall recovery. If different corrected ambient levels are determined, either the lowest corrected ambient level can be utilized throughout the two-entry system, or the atmospheric monitoring system can be divided into distinct areas with the appropriate pre-determined corrected ambient level used.

2. The alert and alarm levels during longwall set-up and recovery shall be 10 ppm and 15 ppm, respectively, above the appropriate corrected ambient level. The atmospheric monitoring system data obtained during longwall set-up and recovery shall be evaluated periodically, as determined by the District Manager, to determine if the alert and alarm levels can be reduced, taking into account problems associated with nuisance alarms.
3. The alert and alarm levels for the belt entry and primary escapeway entry (intake entry) during development and retreat mining shall be determined consistent with such levels in the approved ventilation and dust control plans or emergency response plan. The cross-sectional areas used for alert and alarm level shall be measured at locations in the entry representative of the cross-sectional areas found throughout the belt/intake entry and not at locations where the entry is atypically high (e.g., belt drives) or low (e.g., under overcasts).
4. The carbon monoxide alert and alarm levels established can differ between the two air courses in the two-entry system. Alert and alarm levels can also be different for development, retreat, longwall set-up and longwall recovery. The number of carbon monoxide alert and alarm settings used shall be minimized

and may be limited, as determined by the District Manager, to maintain system effectiveness.

5. The correct ambient level, or time delay periods (parameters) may be reevaluated at any time by MSHA or at the request of the operator. Adjustments to the parameters shall be made only with prior MSHA approval. New parameters shall be included in the ventilation plan and submitted for approval by the District Manager.
6. The AMS shall also activate an alarm signal if the total concentration of uncorrected carbon monoxide, measured by any sensor, exceeds or is equal to 50 ppm. This concentration shall represent all carbon monoxide present in the sensor's atmosphere which includes carbon monoxide from diesel engines.

D. Audible and visual alarm devices used on the section(s) shall be permissible, if installed in areas where permissible equipment is required. Alarm devices shall give visual and audible signals that can be seen and heard at all times on the working section(s), and at a location on the surface of the mine where a responsible person(s) is on duty at all times when miners are underground. Alert devices shall give visual and audible signals that can be seen or heard at all times at such surface locations whenever miners are underground. When audible signals are used for both the alert and alarm, the signals shall be distinguishable from each other.

1. The AMS may be designed to include a time delay period, not to exceed 60 seconds, for corrected carbon monoxide alert and alarm signals. When a sensor response remains within alert or alarm range for longer than the predetermined delay, visual and/or audible signals will be given.
2. Section alarms shall be activated by any sensor(s) from the mouth of the section to the section loading point, and shall also be activated by any

sensor(s) for a distance of 4,000 feet outby the section loading point during initial development. For the purpose of this paragraph, "initial development" is when the first 4,000 feet of two entries is being developed. During that time period, diesel-discriminating sensors located in the conveyor belt entry for a distance of 4,000 feet outby the two-entry section loading point shall activate the section alarm.

3. When the AMS gives any visual or audible alert signal, all persons in the same split of air shall immediately be notified and appropriate action shall be taken to determine the cause of the actuation. When the AMS gives any alarm signal, all persons in the same split(s) of air shall immediately be withdrawn to a safe location outby the sensor(s) activating the alarm, unless the cause is known not to be a hazard to the miners. If the AMS gives any alarm at shift change, no one shall be permitted to enter the mine except qualified persons designated to investigate the source of the alarm. If miners are en route into the mine, they shall be held at, or be withdrawn to, a safe location outby the sensor(s) activating the alarm. Miners shall be permitted underground when the source of the alarm is determined, and the mine is deemed safe to enter.
4. The mine evacuation plan required by 30 CFR 75.1502 shall be revised to specify the: actions taken to determine the cause of the alert and alarm signals; muster locations for withdrawn miners for each alarm signal; steps taken after the cause of the alarm is determined; and procedures followed if the alarm signal is activated. Such revisions shall be approved by the District Manager. A record of each alert and alarm signal given and the action taken shall be maintained at the mine for a period of 1 year.

E. When miners are underground, a responsible person shall be on duty at all times at the surface location at the mine to see the visual alert and hear the audible

alarm signals of the AMS when the carbon monoxide reaches the levels established in paragraphs (I)(C)(2) and (I)(C)(3). This person shall have two-way communications with all working sections. When the established alarm signal levels are reached at any sensor required by these special terms and conditions, the responsible person shall notify miners working inby the affected sensor. The responsible person shall be trained in operation of the AMS, and the proper procedures to follow in the event of an emergency or malfunction. In the event of an emergency or malfunction, the responsible person shall take appropriate action immediately.

F. The AMS shall be visually examined at least once each coal-producing shift, and tested for functional operation at intervals not exceeding 7 days to ensure the AMS is functioning properly and that required maintenance is performed. The AMS shall be calibrated with known concentrations of nitric oxide, carbon monoxide, and air mixtures at intervals not exceeding 30 calendar days. A record of all weekly inspections, monthly calibrations, and all maintenance shall be maintained on the surface and made available to a representative of the Secretary and miners' representatives. The inspection record shall show the time and date of each weekly inspection, calibration, and all maintenance performed on the system.

G. The AMS shall remain operative for the purpose of warning of a fire for a minimum of 4 hours after the source of power to the belt is removed, except when power is removed during a fan stoppage or when the belt haulage way is examined as provided in 30 CFR 75.1103-4(e)(1) and (e)(2).

H. The AMS shall be capable of detecting electrical malfunctions such as electrical short circuits, open circuits, and ground faults and, where applicable, pneumatic malfunctions in the system.

I. The AMS shall be capable of identifying any activated sensor. A map or schematic identifying each belt flight and the details for the AMS shall be posted at the mine.

J. If at any time, the AMS which consists of both diesel-discriminating sensors and methane sensors as outlined in Section II, or any portion of these systems required by these special terms and conditions has been de-energized for reasons such as routine maintenance or failure of a sensor unit, the belt conveyor may continue to operate provided the miners in the working section affected are notified of the situation and the affected portion of the belt conveyor or intake entry(s) is continuously patrolled and monitored for carbon monoxide and methane in the following manner until the AMS is returned to normal operation:

1. The patrolling and monitoring must be conducted by a qualified person or persons in accordance with 30 CFR 75.2.
2. The qualified person(s) performing atmospheric monitoring for carbon monoxide and methane or both shall at all times be equipped with a two-way communication device enabling communication with a designated person on the surface.
3. If one sensor becomes inoperative, a qualified person shall monitor at that location.
4. If two or more adjacent sensors become inoperative, a qualified person shall patrol and monitor the affected area at least once each hour.
5. If the entire system becomes inoperative, a sufficient number of qualified persons shall patrol and monitor the affected entries of the mine so that the affected entries will be traveled once each hour in their entirety.
6. Each of these qualified persons shall be provided with a handheld carbon monoxide detector and a handheld methane detector. A carbon monoxide

detector and a methane detector shall also be available for use on each working section in the event the monitoring system is de-energized or fails.

7. The procedures outlined are applicable only for the reasonable amount of time required to repair or replace the equipment causing the malfunction. The mine operator shall begin corrective actions immediately and continue until the defective equipment causing the malfunction is replaced or repaired. The responsible person on the surface shall immediately establish two-way communication with the working section(s) and notify them of the particular malfunction(s) or problem(s).
8. Monitoring with handheld detectors shall not be used in lieu of installation and use of the fire detection and methane monitoring systems described in this Petition.
9. Time delays shall not be applied to measurements made with handheld detectors. Since handheld detector measurements will include carbon monoxide from diesel-powered equipment, the alert and alarm levels for carbon monoxide when qualified persons are patrolling or monitoring with hand-held detectors shall be 15 ppm and 20 ppm, respectively. These levels shall be incorporated into the ventilation plan required by 30 CFR 75.370.

K. The details for the fire detection system and methane monitoring system, including the type of monitors and specific sensor locations on the mine map, shall be included in the ventilation plan required by 30 CFR 75.370. Additional carbon monoxide sensors and methane sensors shall be installed if required by the District Manager to ensure the safety of the miners, and the corresponding parts of the ventilation plan updated accordingly.

L. The concentration of respirable dust in the intake air coursed through a belt conveyor haulage way shall not exceed 1.0 mg/m3. Compliance with this

requirement will be determined by establishing a designated area (DA) sampling location within 15 feet outby the working section belt tailpiece just outby any air split point introduced into the belt entry and by sampling in accordance with 30 CFR 70.208. The specific DA sampling location shall be identified in the operator's ventilation plan with a four-digit number beginning with 8, followed by the middle two digits of the MMU number, and ending with 9 (e.g., 8119 for MMU 0110).

M. Administrative controls shall be developed establishing procedures for planning and communication of activities which are known to result in elevated carbon monoxide levels which do not present a hazard to miners working inby. All persons working in the two-entry longwall panel shall be trained as to the requirements of these administrative controls. In the case of diesel equipment operators, the training shall include the locations of diesel-discriminating sensors to minimize false alarms. Diesel equipment operators shall be instructed not to idle machines near diesel-discriminating sensors. Administrative controls shall also be used to minimize the number and type of pieces of diesel equipment in the two-entry system and to notify miners on the working section when any diesel equipment is operating in the two-entry system and when welding operations are performed in order to avoid false alert and alarm signals. These administrative controls shall be incorporated into the ventilation plan for the mine.

N. During the operation of diesel equipment in the two-entry panel, the minimum quantity of air for a single unit shall be at least that specified on the approval plate for that equipment. Where multiple diesel units are operated, the minimum quantity shall be the total sum, for all units, of 100 percent of the air quantity on the approval plate of each diesel unit. The air quantity shall be measured at the following locations:

1. In the intake entry across from the section loading point during development mining.
2. In the belt entry and intake entry at the section loading point during retreat.
3. In the intake entry across from the projected location for the section loading point during longwall equipment setup.
4. In the intake entry across from the location of the last loading point during equipment recovery.

   In any instance where the air current splits inby these designated measuring points, the minimum air quantity for each split shall be the total sum of 100 percent of the air quantity on the approval plate for each diesel unit in the split.

O. Each diesel powered equipment operated on any two-entry longwall development or two-entry longwall panel shall be provided with a fire suppression system. Equipment used in the primary escapeway shall be provided with a fire suppression system in accordance with 30 CFR 75.380(f)(2).

P. All diesel-powered equipment operated on any two-entry longwall development or two-entry longwall panel shall be equipment approved under 30 CFR part 36 with the exception of non-approved diesel-powered ambulances used in emergency situations to transport injured personnel to the surface. These ambulances shall not be stored in the two-entry panel.

Q. Diesel fuel shall not be stored in the two-entry panel.

R. Personnel carriers or other transportation equipment shall be maintained on or near the working section, shall be of sufficient capacity to transport all persons who may be in the area, and shall be located within 300 feet of the section loading point.

S. During development of the two entry system, a rock dusting unit shall be installed in the belt conveyor entry near the section loading point. Also, during longwall retreat mining in the two-entry panel, a rock dusting unit shall be installed at or near the last tailgate shield. These rock dusting units shall be operated continuously when coal is being produced, except when miners are performing maintenance, inspections, or other required work in these areas.

T. Fire doors designed to quickly isolate the working section shall be installed in both entries for potential use in emergency situations. The fire doors shall be operable throughout the duration of the two-entry panel. A plan for the emergency closure of these fire doors, notification of personnel, and de-energization of electric power inby the doors shall be included in the approved ventilation plan. Miners shall be trained in these specific plan provisions.

U. When the hydraulic fluid pump station for the longwall support system is located in the two-entry system, it shall be installed and maintained as follows:

1. The pumps and electrical controls shall be equipped with an automatic fire suppression system.
2. Only MSHA-approved fire resistant hydraulic fluid of the "high water content group" may be used.
3. The pump station shall be maintained to within 1,200 feet of the longwall face.
4. In addition to the concentrate contained as part of the hydraulic pump system, hydraulic concentrate stored in the two entry system shall be limited to 500 gallons.
5. A diesel-discriminating carbon monoxide sensor shall be installed between 50 and 100 feet downwind of the hydraulic pump station. The sensor shall be

installed in a location that will detect carbon monoxide caused by a fire and in a location to prevent damage from mobile equipment.

6. Whenever the transformer supplying power to the hydraulic pumping station is located in the intake entry, the transformer shall be:
   a. Maintained within 1,200 feet of the longwall face.
   b. Provided with a diesel-discriminating sensor which is located on the inby side of the transformer in a location that will detect carbon monoxide caused by a fire and prevent damage from mobile equipment.
   c. Provided with an over-temperature device that shall de-energize the transformer when the temperature reaches 165 degrees Fahrenheit.
7. Each hydraulic pump shall be provided with an over-temperature device that automatically de-energizes the motor on which it is installed. De-energization shall take place at a temperature of not more than 210 degrees Fahrenheit. The over-temperature device shall be installed at one of the following locations:
   a. The circulating oil for the pump; or
   b. The external pump case housing.
8. Personal protective equipment as listed on the Material Safety Data Sheet (MSDS) for the fire-resistant hydraulic fluid shall be provided for use when adding bulk emulsion oil at the pump station.

V. At least one self-contained self-rescuer shall be available for each person on the working section at all times, and shall be carried into the section and carried on the section, or stored on the section, while advancing the two-entry development. During longwall retreat mining, at least two self-contained self-rescuers shall be available for each person regularly assigned to the working section. One shall be stored near the face in the headgate entries at a readily accessible location and one

shall be stored near the tailgate entries. These locations shall be specified in the mine evacuation plan approved by the District Manager under 30 CFR 75.1502.

W. In addition to the requirements of 30 CFR 75.1100-2(b), firehose outlets shall be installed along the intake entry, with valves every 300 feet. At least 500 feet of firehose, with fittings suitable for connection with the outlets, shall be stored at each strategic location along the intake entry. The strategic locations shall be specified in the firefighting and evacuation plan.

X. Compressor stations and unattended portable compressors shall not be located in the two-entry panel.

II. Additional Requirements Applicable to the Development of Two-Entry Panels, and Longwall Set-up and Recovery.

A. A methane monitoring system shall be installed to monitor the air in each belt haulage entry. The methane sensors shall be located so that the belt air is monitored near the mouth of the development or retreat section, near the tailpiece of the belt conveyor, and at or near any secondary belt drive unit installed in the belt haulage entry.

B. The methane monitoring system shall be capable of providing both audible and visual signals on both the working section and at a manned location on the surface of the mine where personnel will have two-way communication with all working sections and will be on duty at all times when miners are underground. The system shall initiate alert signals when the level of methane exceeds 0.8 volume per centum, and alarm signals when tile level is 1.0 volume per centum. The methane monitoring system shall be designed and installed to de-energize the belt conveyor drive units and the equipment located on the section when the level of methane equals or exceeds 1.0 volume per centum.

C. The methane monitoring system shall be visually examined at least once every 24 hours to ensure proper functioning. The system shall be inspected by a person qualified for such work at intervals not exceeding 7 days. The qualified person shall ensure that the devices are operating properly and that the required maintenance, as recommended by the manufacturer, is performed. The monitoring devices shall be calibrated with known quantities of methane-air mixtures at intervals not exceeding 31 calendar days. An inspection record shall be maintained on the surface and made available to a representative of the Secretary and representative(s) of miners. The inspection record shall show the date and time of each weekly inspection and calibration of the monitor and all maintenance performed, whether at the time of the weekly inspection or otherwise

III. Implementation and Training Requirements

A. If the Petition is granted, the petitioner shall provide two separate intake air courses within each long-wall panel to each two-entry longwall. Both air courses may be located on the same side of the panel; however, the air shall travel in a direction from the mouth of the panel toward the section.

B. The petitioner shall not operate a two-entry longwall systems using belt air until MSHA conducts an inspection or otherwise determines that the terms and conditions of this Petition have been met and that the miners have been trained in proper evacuation procedures, including instructions and drills in evacuation and instructions in precautions to be taken for escape through smoke.

C. Within 60 days after this Petition becomes final, the petitioner shall submit proposed revisions for its approved 30 CFR part 48 training plan to the Coal Mine Safety and Health District Manager. These proposed revisions shall specify initial and refresher training regarding the conditions specified by the Petition.

D. The terms and conditions of this Petition will not apply during the time period from completion of the development mining of the two-entry longwall panel until the beginning of the longwall equipment set-up activities, provided the conveyor belt in the two-entry panel is not energized. During this time period all relevant standards will apply.

The petitioner asserts that the alternate method proposed will at all times guarantee no less than the same measure of protection afforded the miners by the existing standard.

Song-ae Aromie Noe,

Acting Director,

Office of Standards, Regulations, and Variances.

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